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Eichler

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[54] **SIDE PROPELLERS FOR THE PROPULSION OF FAST BOATS AND AIRCRAFT**

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Related U.S. Application Data

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[30] **Foreign Application Priority Data**

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[51] **Int. Cl.**[3] **B63H 1/26**

[52] **U.S. Cl.** ..... **416/175;** 416/236 A; 416/210 R

[58] **Field of Search** ..... 416/175, 178, 179, 186, 416/188, 236 A, 238, 210 R, 129

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[57] **ABSTRACT**

A propeller hub rotatable about an axis is provided with a plurality of airfoil surfaces peripherally arranged about the axis and defining a first pitch angle that is acute and adjustable with respect to the tangent on the circular arc described by rotation of the airfoil surface as seen in a plane perpendicular to the axis, and further by a second pitch angle being acute and adjustable and measured with respect to the axis of rotation within a plane containing the axis of rotation. Peripherally adjacent airfoil surfaces may have their first pitch angles oppositely oriented and second pitch angles oppositely oriented to respectively propel fluid inwardly and outwardly with respect to the axis of rotation. The air foil surfaces may be directly connected to the hub and extend conically outward or connected to the hub by means of arms that may be angled airfoil surfaces functioning as conventional screw propellers. The hub may be mounted coaxially adjacent a counter rotating screw.

2 Claims, 15 Drawing Figures